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## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 04 October 2000 (04.10.00)	
<b>International application No.</b> PCT/US00/00824	<b>Applicant's or agent's file reference</b> MCK-005.25
<b>International filing date</b> (day/month/year) 12 January 2000 (12.01.00)	<b>Priority date</b> (day/month/year) 12 January 1999 (12.01.99)
<b>Applicant</b> HUNT, Andrew, T. et al	

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

09 August 2000 (09.08.00)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Manu Berrod


Telephone No.: (41-22) 338.83.38

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference MCK-005.25	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/00824	International filing date (day/month/year) 12/01/2000	Priority date (day/month/year) 12/01/1999
International Patent Classification (IPC) or national classification and IPC H01L39/24		
Applicant MICROCOATING TECHNOLOGIES, INC. et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"><li>I <input checked="" type="checkbox"/> Basis of the report</li><li>II <input type="checkbox"/> Priority</li><li>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li><li>IV <input checked="" type="checkbox"/> Lack of unity of invention</li><li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li><li>VI <input type="checkbox"/> Certain documents cited</li><li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li><li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li></ul>		
Date of submission of the demand  09/08/2000	Date of completion of this report  22.05.2001	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Korb, W  Telephone No. +49 89 2399 2284	



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/00824

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
- Description, pages:**

1-21 as originally filed

### Claims, No.:

1-19 as originally filed

### Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/00824

- ☐ the drawings, sheets:
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):  
*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application.
- ☒ claims Nos. 11 - 18.

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the said claims Nos. 11 - 18.
2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
- ☐ the written form has not been furnished or does not comply with the standard.
- ☐ the computer readable form has not been furnished or does not comply with the standard.

## IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:
- ☐ restricted the claims.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/00824

- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☒ neither restricted nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
- ☐ not complied with for the following reasons:
4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:
- ☐ all parts.
- ☒ the parts relating to claims Nos. 1 - 10, 19.

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1 - 4, 10, 19
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1 - 10, 10
Industrial applicability (IA)	Yes:	Claims	1 - 10
	No:	Claims	

### 2. Citations and explanations see separate sheet

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:  
see separate sheet

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US00/00824

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see separat sh et

**R Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

See International Search Report

**Re Item IV**

**Lack of unity of invention**

1. See the International Search Report.
2. The subject-matter of independent claim 1 is already known. Furthermore the subject-matter of claim 5 to which claim claims 6 and 8 refer to is not inventive (see the grounds for this objection Item V, 3., 2). The requisite unity of invention (Rule 13.1 PCT) therefore no longer exists inasmuch as a technical relationship involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT does not exist between the subject-matter of the following groups of dependent claims:

Claim 6 - An article wherein the final layer is an insulator.

Claim 8 - An article wherein the final layer is a conductor.

For this lack of unity found in addition to the multiple inventions already addressed in the International Search Report it was chosen not to invite the applicant to restrict or pay additional fees.

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following document:

D1: US-A-5 741 377 (BUDAI JOHN D ET AL) 21 April 1998 (1998-04-21) cited in the application



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US00/00824

2. Document D1 already discloses (see D1, abstract, column 1, lines 46 - 54, column 3, lines 30 - 35, column 4, lines 14 - 20, column 5, line 38 column 6, line 10, figure 2, column 8, line 66 - column 9, line 63, column 11, line 54 - column 13, line 46) a textured Ni-containing substrate and an epitaxial buffer layer chosen from the group  $\text{SrTiO}_3$ ,  $\text{LaAlO}_3$  on said substrate. In consequence the subject-matter claimed in independent claims 1 and 10 is not new.

Furthermore D1 discloses (see D1, column 11, line 61 - column 12, line 18) performing chemical vapour deposition as a possibility for depositing the buffer layer. Thus a skilled man would select this possibility without the exercise of inventive skill. In consequence the subject-matter claimed in independent claim 19 lacks an inventive step.

3. Dependent claims 2 - 9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

- 1) The features of claims 2 - 4 are already known from D1.
- 2) It is within the common knowledge of a skilled man to provide a protective final layer on a superconducting layer in order to avoid deterioration of the superconducting layer. Thus a skilled man would add a final layer on the superconducting layer as claimed in claim 5 without the exercise of inventive skill.
- 3) Claims 6 - 9 relate to normal design options for a final layer.

**Re Item VII**

**Certain defects in the international application**

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

**Re Item VIII**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US00/00824

**Certain observations on the international application**

1. The brackets "[SrTiO<sub>3</sub>]" used in each of independent claims 1, 10, and 19 leave the reader in doubt as to the meaning of the technical feature concerned, thereby rendering the definition of the subject-matter of said claims unclear (Article 6 PCT).
2. The vague and imprecise statement in the description on page 21, lines 24 - 28 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them (see also the PCT Guidelines, III-4.3a).
3. The lack of clarity of the subject-matter for which protection is sought is reinforced by the definitions of the invention given in the description (see page 11) that differ from any of the independent claims 1, 10, and 19.

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
20 July 2000 (20.07.2000)

PCT

(10) International Publication Number  
**WO 00/42621 A3**

(51) International Patent Classification<sup>7</sup>: **H01L 39/24**,  
H01M 8/02, H01G 4/06, B01D 71/02

(21) International Application Number: PCT/US00/00824

(22) International Filing Date: 12 January 2000 (12.01.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/115,519 12 January 1999 (12.01.1999) US

(71) Applicant (for all designated States except US): **MICRO-COATING TECHNOLOGIES, INC.** [US/US]; 3901 Green Industrial Way, Chamblee, GA 30341 (US).

(72) Inventors; and

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[JM/US]; 7139 Highway 85 #120, Atlanta, GA 30274 (US). **HWANG, Tzyy-Jiuan, Jan** [US/US]; 510 Oak Bridge Trail, Alpharetta, GA 30022 (US). **LIN, Wen-Yi** [—/US]; 1289 Blue Hills Avenue, Bloomfield, CT 06002 (US). **SHOUP, Shara, S.** [US/US]; 5138 Chestnut Circle, Woodstock, GA 30188 (US).

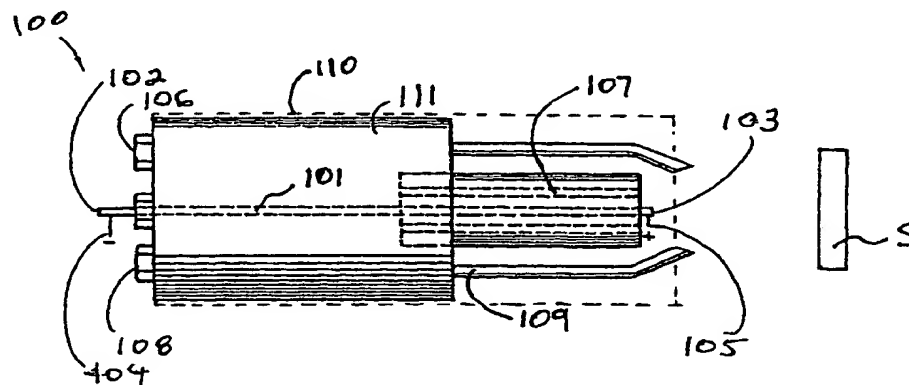
(74) Agents: **KELLY, Edward, J.** et al.; Foley, Hoag & Eliot, LLP, One Post Office Square, Boston, MA 02109 (US).

(81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: EPITAXIAL THIN FILMS



**WO 00/42621 A3**  
(57) Abstract: Epitaxial thin films for use as buffer layers for high temperature superconductors, electrolytes in solid oxide fuel cells (SOFC), gas separation membranes or dielectric material in electronic devices, are disclosed. By using CCVD, CACVD or any other suitable deposition process, epitaxial films having pore-free, ideal grain boundaries, and dense structure can be formed. Several different types of materials are disclosed for use as buffer layers in high temperature superconductors. In addition, the use of epitaxial thin films for electrolytes and electrode formation in SOFCs results in densification for pore-free and ideal grain boundary/interface microstructure. Gas separation membranes for the production of oxygen and hydrogen are also disclosed. These semipermeable membranes are formed by high-quality, dense, gas-tight, pinhole free sub-micro scale layers of mixed-conducting oxides on porous ceramic substrates. Epitaxial thin films as dielectric material in capacitors are also taught herein. Capacitors are utilized according to their capacitance values which are dependent on their physical structure and dielectric permittivity. The epitaxial thin films of the current invention form low-loss dielectric layers with extremely high permittivity. This high permittivity allows for the formation of capacitors that can have their capacitance adjusted by applying a DC bias between their electrodes.

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EE	Estonia	LR	Liberia	SG	Singapore		



**Published:**

— with international search report

**(88) Date of publication of the international search report:**

2 August 2001

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

Intern Application No

PCT/US 00/00824

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L39/24 H01M8/02 H01G4/06 B01D71/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 741 377 A (BUDAI JOHN D ET AL) 21 April 1998 (1998-04-21) cited in the application example 11 -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

19 October 2000

Date of mailing of the international search report

26. 01. 01

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016.

Authorized officer

PELSERS, L

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 00/00824

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-10,19

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 00/00824

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10 ,19

Article and superconducting article comprising a buffer layer on a textured metal substrate

1.1. Claims: 11-15

an electrolyte for a fuel cell

1.2. Claim : 16

a gas separation membrane

1.3. Claim : 17 18

a capacitor

2. Claims: 11-15

an electrolyte for a fuel cell

3. Claim : 16

a gas separation membrane

4. Claims: 17,18

a capacitor

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.



# INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 00/00824

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5741377 A	21-04-1998	AU 713892 B	16-12-1999
		AU 5539896 A	30-10-1996
		CA 2217822 A	17-10-1996
		EP 0830218 A	25-03-1998
		JP 11504612 T	27-04-1999
		US 5958599 A	28-09-1999
		WO 9632201 A	17-10-1996
		US 5898020 A	27-04-1999
		US 5739086 A	14-04-1998
		US 5968877 A	19-10-1999
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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>MCK-005.25</b>	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/US 00/ 00824</b>	International filing date (day/month/year) <b>12/01/2000</b>	(Earliest) Priority Date (day/month/year) <b>12/01/1999</b>
Applicant  <b>MICROCOATING TECHNOLOGIES, INC. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 00/00824

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-10,19

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10 ,19

Article and superconducting article comprising a buffer layer on a textured metal substrate

1.1. Claims: 11-15  
an electrolyte for a fuel cell

1.2. Claim : 16  
a gas separation membrane

1.3. Claim : 17 18  
a capacitor

2. Claims: 11-15  
an electrolyte for a fuel cell

3. Claim : 16  
a gas separation membrane

4. Claims: 17,18  
a capacitor

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/00824

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L39/24 H01M8/02 H01G4/06 B01D71/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 741 377 A (BUDAI JOHN D ET AL) 21 April 1998 (1998-04-21) cited in the application example 11 -----	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

19 October 2000

Date of mailing of the international search report

26.01.01

Name and mailing address of the ISA

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Authorized officer

PELSERS, L

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/00824

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5741377 A	21-04-1998	AU 713892 B	16-12-1999
		AU 5539896 A	30-10-1996
		CA 2217822 A	17-10-1996
		EP 0830218 A	25-03-1998
		JP 11504612 T	27-04-1999
		US 5958599 A	28-09-1999
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		US 5898020 A	27-04-1999
		US 5739086 A	14-04-1998
		US 5968877 A	19-10-1999
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